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10/783,279	02/19/2004	Desmond Toh Onn Hii	6404P017	7610

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EXAMINER

RAO, ANAND SHASHIKANT

ART UNIT PAPER NUMBER

2621

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/783,279

Applicant(s)

HII, DESMOND TOH ONN

Examiner

Andy S. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 11 and 35-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 35-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed with respect to claims 1-3, 11, 35-45 (amended) as filed in 9/14/06 have been fully considered but they are not persuasive.
2. Claims 1-3, 11, 35-45 (amended) are rejected under 35 U.S.C. 103(a) as being under 35 U.S.C. 103(a) as being unpatentable over Ritchey in view of Moezzi et al., (hereinafter referred to as "Moezzi").
3. The Applicant presents one argument contending the Examiner's rejection of claims 1-38 rejected under 35 U.S.C. 103(a) as being unpatentable over Ritchey in view of Moezzi et al., (hereinafter referred to as "Moezzi"), said rejection being set forth in the Office Action of 6/9/06, with the argument being presented in support of amended claims 1-3, 11, and 35-45. However, after a careful consideration of the argument presented and further scrutiny of the applied art, the Examiner must respectfully disagree, and maintain the applicability of the Ritchey and Moezzi references.

After summarizing the pending rejection (Amendment of 9/14/06: page 7, lines 1-22), the Applicant's argues that the references fail to address the newly added limitations of "...selecting a presentation style for the combined image depending on a desired detail for the combined image, wherein the presentation style is selected from the group of: letterbox, pan/scan, and horizontal compression..." as in the claims (Amendment of 9/14/06: page 8, lines 1-19), as in the amended claims. However the Examiner must respectfully disagree for the reasons that follow. While Ritchey is generally directed towards presentation style selection for stereoscopic images according to certain desired display parameters, Moezzi addresses "...selecting a presentation style for the combined image depending on a desired detail for the combined image, wherein the

presentation style is selected from the group of: letterbox, pan/scan, and horizontal compression...” in particular when discussing presenting the immersive video on television displays according to letterbox (Moezzi: column 16, lines 1-10: “any aspect ratio”), pan/scan and horizontal compression (Moezzi: column 1, lines 50-60), in order to provide a user with virtual video views that are spatially and temporally consistent (Moezzi: column 1, lines 30-40) over the standard 3D presentation methods as discussed in the primary reference (Moezzi: column 8, lines 40-50). For this reason, the Examiner maintains that Moezzi when incorporated with Ritchey would read upon the newly added limitation, and thus maintains the applicability of the references.

A detailed rejection follows below.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 11, and 35-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritchey in view of Moezzi et al., (hereinafter referred to as "Moezzi").

Ritchey discloses a method for providing a combined image from a plurality of images each produced by one of a plurality of cameras each having an image system for taking an image of the plurality of images (Ritchey: column 2, lines 10-15), the method comprising: (a) generating the plurality of images in each of the plurality of cameras (Ritchey: column 9, lines 1-45); (b) and combining the plurality of images to form the combined image using a virtual camera (Ritchey: column 22, lines 40-65; column 24, lines 40-65; column 26, lines 40-67; column 27, lines 1-5), as in claim 1. However, even though Ritchey discloses a distortion addition process for producing the combined image (Ritchey: column 22, lines 50-65), the reference fails to disclose using a stitching process, selecting a presentation style for the combined image depending on a desired detail for the combined image, wherein the presentation style is selected from the group of: letterbox, pan/scan, and horizontal compression, as in the claim. Moezzi discloses using a stitching process (Moezzi: column 34, lines 15-55), and selecting a presentation style for the combined image depending on a desired detail for the combined image (Moezzi: column 11, lines 35-45: "viewer criterion"), wherein the presentation style is selected from the group of: letterbox (Moezzi: column 16, lines 1-10: "any aspect ratio"),

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pan/scan and horizontal compression (Moezzi: column 1, lines 50-60) for combining multiple images to produce a resultant virtual view image through warping (Moezzi: column 19, lines 10-55) in order to provide a spatially and temporally consistent (Moezzi: column 1, lines 30-40) virtual camera viewpoint to a user (Moezzi: column 39, lines 35-65; column 40, lines 1-45). Accordingly, given this teaching it would have been obvious for one of ordinary skill in the art incorporate the stitching and presentation style selection process of Moezzi into the Ritchey method, to execute Ritchey's disclosed distortion addition process in order to have the combined method provide a realistic virtual camera view point to a user. The Ritchey method, now incorporating the Moezzi stitching and presentation style processes, has all of the features of claim 1.

Regarding claim 2, the Ritchey method, now incorporating the Moezzi stitching and presentation style processes, has wherein the stitching is by warping each of the plurality of images into an intermediate coordinate, and stitching the plurality of images into the combined image using a two dimensional search (Moezzi: column 19, lines 10-35), as in the claim.

Regarding claim 3, the Ritchey method, now incorporating the Moezzi stitching and presentation style processes, has determining overlap calculations to determine overlap regions of the plurality of images, the overlap calculation being used for all subsequent pluralities of images from the plurality of cameras (Moezzi: column 29, lines 45-67; column 30, lines 1-65), as in the claim.

Regarding claim 11, the Ritchey method, now incorporating the Moezzi stitching and presentation style processing, has determining overlap calculations to determine overlap regions of the plurality of images, the overlap calculation being used for all subsequent pluralities of

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images from the plurality of cameras (Moezzi: column 29, lines 45-67; column 30, lines 1-65), as in the claim.

Ritchey discloses an apparatus for producing a combined image (Ritchey: figure 1), comprising: a plurality of cameras each having an image system (Ritchey: column 9, lines 1-45); (b) a combiner for performing an operation on a plurality of images, each of the plurality of images being produced by one of the plurality of cameras, to produce the combined image (Ritchey: column 22, lines 40-65; column 24, lines 40-65; column 26, lines 40-67; column 27, lines 1-5), the combiner being disguised as a virtual camera (Ritchey: column 22, lines 50-65), as in claim 35. However, even though Ritchey discloses a distortion addition processor for producing the combined image (Ritchey: column 22, lines 50-65), the reference fails to disclose using a stitcher, and a selector for selecting a presentation style for the combined image depending on a desired detail for the combined image, wherein the presentation style is selected from the group of: letterbox, pan/scan, and horizontal compression, as in the claim. Moezzi discloses using a stitcher (Moezzi: column 34, lines 15-55), and a selector selecting a presentation style for the combined image depending on a desired detail for the combined image (Moezzi: column 11, lines 35-45: "viewer criterion"), wherein the presentation style is selected from the group of: letterbox (Moezzi: column 16, lines 1-10: "any aspect ratio"), pan/scan and horizontal compression (Moezzi: column 1, lines 50-60) for combining multiple images to produce a resultant virtual view image through warping (Moezzi: column 19, lines 10-55) in order to provide a spatially and temporally consistent (Moezzi: column 1, lines 30-40) virtual camera viewpoint to a user (Moezzi: column 39, lines 35-65; column 40, lines 1-45).

Accordingly, given this teaching it would have been obvious for one of ordinary skill in the art

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incorporate the stitcher and presentation style selector of Moezzi into the Ritchey apparatus, to execute Ritchey's disclosed distortion addition process in order to have the combined apparatus provide a realistic virtual camera view point to a user. The Ritchey apparatus, now incorporating the Moezzi stitcher and presentation style selector, has all of the features of claim 35.

Regarding claim 36, the Ritchey apparatus, now incorporating the Moezzi stitcher and presentation style selector, has wherein each camera includes a buffer (Ritchey: column 16, lines 25-65), as in the claim.

Regarding claim 37, the Ritchey apparatus, now incorporating the Moezzi stitcher and presentation style selector, has wherein the plurality of cameras in a common body (Ritchey: figure 2), as in the claim

Regarding claim 38, the Ritchey apparatus, now incorporating the Moezzi stitcher and presentation style selector, has wherein each of the plurality of cameras is in a separate body (Ritchey: column 10, lines 30-45), as in the claim.

Regarding claim 39, the Ritchey apparatus, now incorporating the Moezzi stitcher and presentation style selector, discloses wherein the stitching is by warping each of the plurality of images into an intermediate coordinate, and stitching the plurality of images into the combined image using a two dimensional search (Moezzi: column 19, lines 10-35), as in the claim.

Regarding claims 40-41, the Ritchey apparatus, now incorporating the Moezzi stitcher and presentation style selector, further includes determining overlap calculations to determine overlap regions of the plurality of images, the overlap calculation being used for all subsequent pluralities of images from the plurality of cameras (Moezzi: column 29, lines 45-67; column 30, lines 1-65), as in the claims.



Regarding claims 42-43, the Ritchey apparatus, now incorporating the Moezzi stitcher and presentation style selector, has wherein the image from each of the plurality cameras and the combined image is of a type selected from a group comprising of video and still (Moezzi: column 45, lines 25-35), as in the claims.

Regarding claims 44-45, the Ritchey apparatus, now incorporating the Moezzi stitcher and presentation style selector, has wherein the image from each of the plurality cameras and the combined image is of a type selected from a group comprising of video and still (Moezzi: column 45, lines 25-35), as in the claims.

### *Conclusion*

6. Applicant's amendment necessitated the new ground(s) of rejection based on previously uncited portions of the previously applied references presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

	Andy S. Rao Primary Examiner Art Unit 2621
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asr  
November 27, 2006

ANDY RAO  
PRIMARY EXAMINER